DWR OROVILLE FACILITIES RELICENSING PROJECT
(FERC Project No. 2100)

STUDY # 1F: FEATHER RIVER FLOW-STAGE MODEL DEVELOPMENT

December 12, 2001

1.0 INTRODUCTION/BACKGROUND

Much of the analysis to be performed along the Feather River requires knowledge of the river stage at various flows. While some of this information is available additional information, especially if any channel modifications are considered may be required.

2.0 STUDY GOAL(S) AND OBJECTIVE(S)

The goal of this study plan is to develop flow-stage model of the Feather River for use in defining the flow-stage relationships at various points along the river.

3.0 RELATIONSHIP OF THE STUDY PLAN TO RELICENSING PROJECT PROCESS/PURPOSE AND NEED FOR THE STUDY

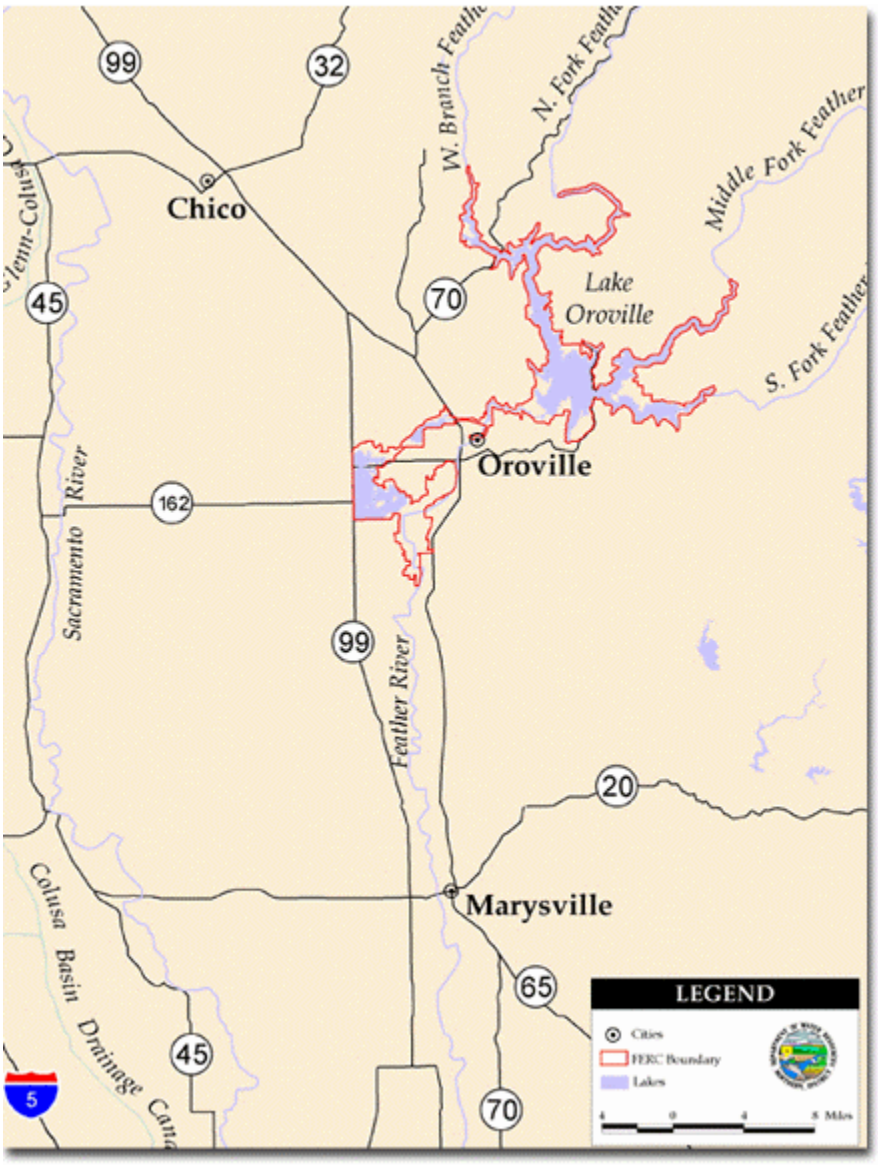
Relationship of the Study Plan to Relicensing Project Process

Purpose and Need for the Study

Required to provide flow-stage relationships to be used in further analysis such as riparian habitat, areas subject to overflow, etc.

4.0 SCOPE – STUDY AREA

The study area includes the Feather River downstream of the diversion dam to its confluence with the Sacramento River.



5.0 GENERAL APPROACH

The general approach will be to search for existing flow-stage information along the river. Gaging stations usually have cross-sections. Flood management may have information. Look for other sources of cross section data. Possible development of a model.

Detailed Methodology and Analysis Procedures

Task 1 – Find and document existing flow-stage related data

- Cross section data
- Flood mapping

- Gaging stations ratings
- Existing models or relationships
- Existing Temperature model dataset(s)

Task 2 – Develop flow-stage model if required

The model should be developed to adequately characterize the variable river morphology and bed geometry (if not already) so fluctuating flow conditions can be described.

6.0 RESULTS AND PRODUCTS/DELIVERABLES

Results

- Flow-stage relationships along the Lower Feather River under existing conditions
- A calibrated and verified model that can be used for modeling flow-stage relationships at various locations along the lower Feather River.

Products/Deliverables

7.0 STUDY PLAN COORDINATION AND IMPLEMENTATION STRATEGY

Coordination with Other Resource Areas/Studies

This effort will be coordinated with the Environmental Work group to ensure that reasonable flow-stage relationships are available for in-stream and habitat analysis along the Lower Feather River.

It will also be used in conjunction with the cold water pool availability study plan to develop effective means for managing river temperatures while maintaining the cold water supply.

Related Water Quality Study Plans: SPW1, SPW4, SPW6
Related Water Quality Issues: W1-W3, W9-W14, W16

Study Plan Tracking/Regulatory Compliance Requirements

8.0 REFERENCES

ATTACHMENTS (EXAMPLES)

A- RELEVANT STAKEHOLDER/WORK GROUP ISSUE SHEET(S)
B- ORIGINAL COMMENTS PROVIDED BY STAKEHOLDERS ADDRESSED BY THE STUDY PLAN
C - DATA COLLECTION/FIELD SURVEY DATA SHEETS
D - DATABASE TEMPLATES
E - SUMMARY REPORT - ANNOTATED OUTLINE